SAMSUNG

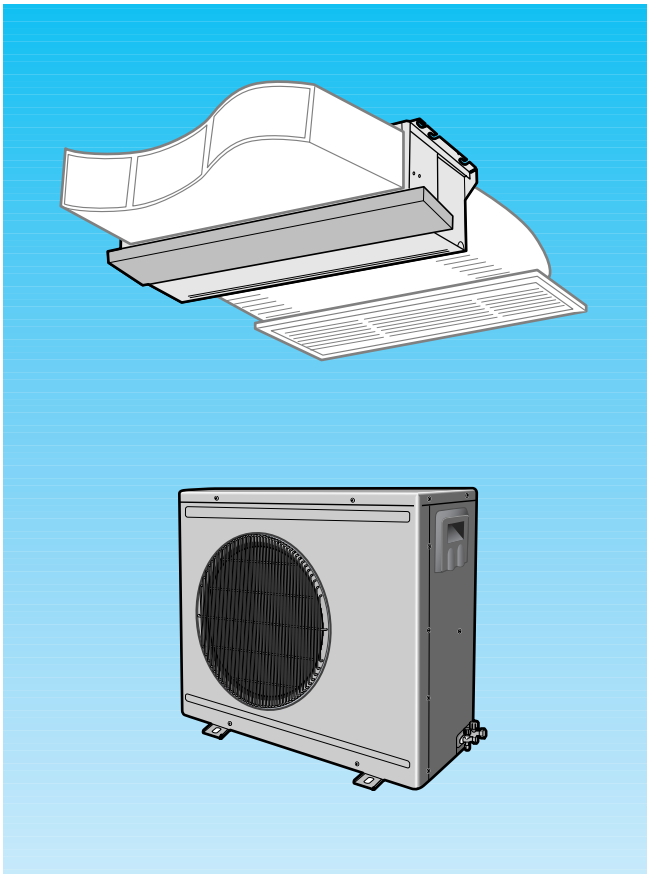
DUCT TYPE AIR CONDITIONER

INDOOR UNIT DH094EAM

OUTDOOR UNIT UH094EAMC

SERVICE Manual

AIR CONDITIONER



CONTENTS

1. Product Specifications
2. Disassembly and Reassembly
3. Refrigerating Cycle Diagram
4. Set Up the Model Option
5. Control Specification & Troubleshooting
6. Exploded Views and Parts List
7. Block Diagram
8. Wiring Diagram
9. Schematic Diagram

1. Product Specifications

1-1 Table

MODEL	INDOOR UNIT			DH094EAM
	OUTDOOR UNIT			UH094EAMC
Capacity	Cooling		BTU/h	32,000
			W	9,400
	Heating		BTU/h	34,800
			W	10,200
Power Supply			ø/V/Hz	1/220~240/50
Power Input	Cooling		W	3,550
	Heating		W	3,300
Running Current	Cooling		A	15.9
	Heating		A	15.2
Indoor Unit	Fan Speed	H.H	r.p.m	1,170
		Hi	r.p.m	1,020
		Mid	r.p.m	870
		Low	r.p.m	720
	Air Flow	H.H	m^3/min	27
		Hi	m^3/min	23
		Mid	m^3/min	20
		Low	m^3/min	16
	Noise Level(Hi) (Sound Pressure)	Cooling(Hi)	dB(A)	42
		Heating(Hi)	dB(A)	42
	Heat Exchanger	Type		Slit
		Row x Stages x Fin pitch		3 x 12 x 1.5mm
	Fan	Type		Sirocco
		Motor Output	W	157
	Dimensions	H	mm	260
		W	mm	1,340
		D	mm	600
	Weight	Net / Gross	kg	43 / 51
Outdoor Unit	Fan Speed	Hi	r.p.m	930
		Low	r.p.m	360
	Air Flow(Hi)		m^3/min	67
	Noise Level (Sound Pressure)	Cooling(Hi)	dB(A)	63
		Heating(Hi)	dB(A)	64
	Fan	Type		Propeller
		Motor Output	W	122
	Compressor	Type		Rotary
		Model		NN40VAAMT
		Motor Output	kW	2.7
		Protection		Internal

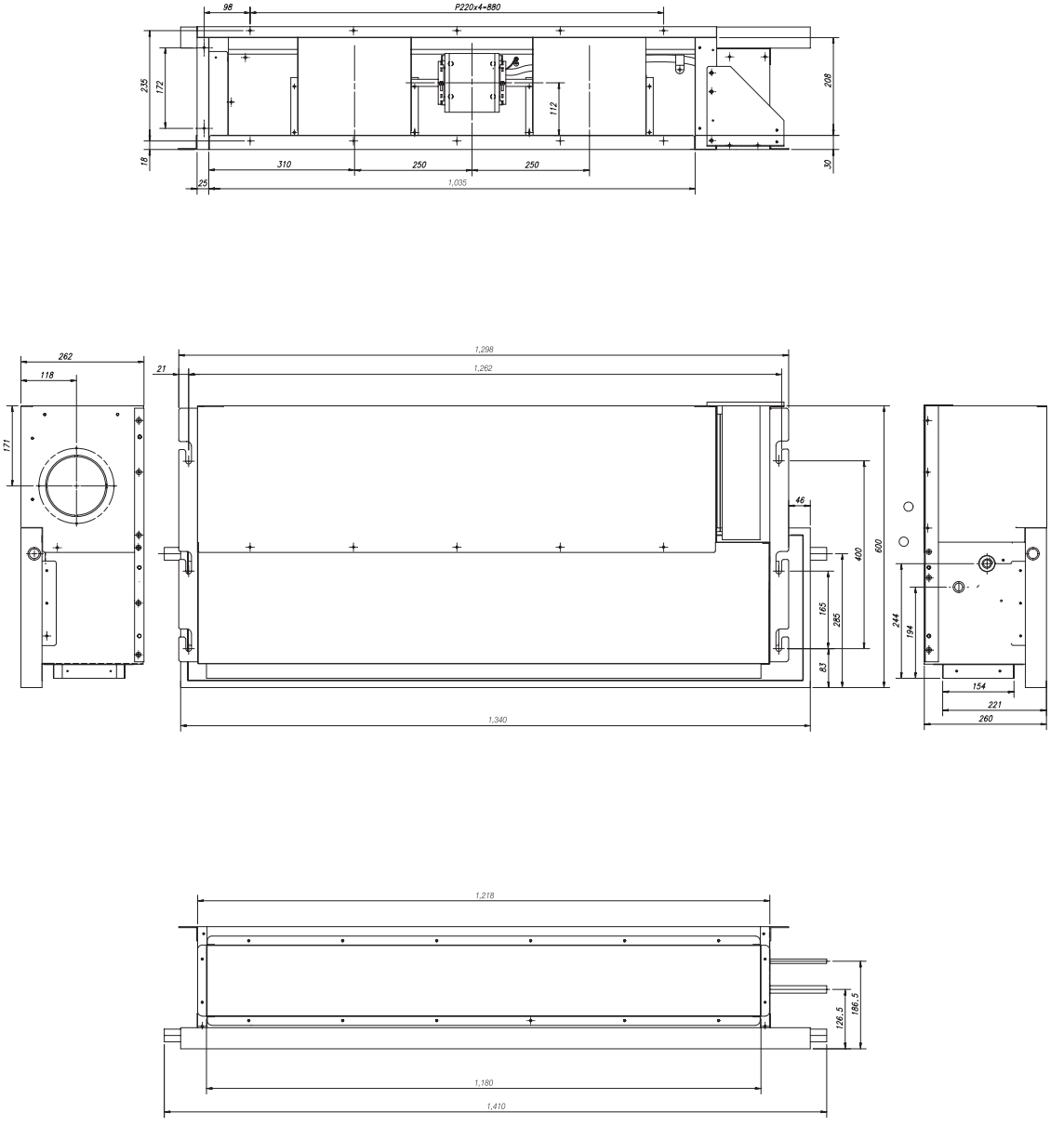
Table(cont.)

MODEL	INDOOR UNIT			DH094EAM
	OUTDOOR UNIT			UH094EAMC
Outdoor Unit	Refrigerant	Type		R410A
		Charge	g	1,750
		Adding Charge	g / m	60
		Control		Elec.Expansion Valve
	Heat Exchanger	Type		Louver
		Row x Stages x Fin pitch		2 x 36 x 1.5
	Dimensions	H	mm	798
		W	mm	880
		D	mm	310
	Weight	Net / Gross	kg	74 / 82
Piping	Pipe O.D Size	Liquid	mm(inch)	9.52(3/8")
		Gas	mm(inch)	15.88(5/8")
	Connection Method			Flare
	Between	Height	m	Max.15
		Pipe Length	m	Max.30

1-2 Dimensions

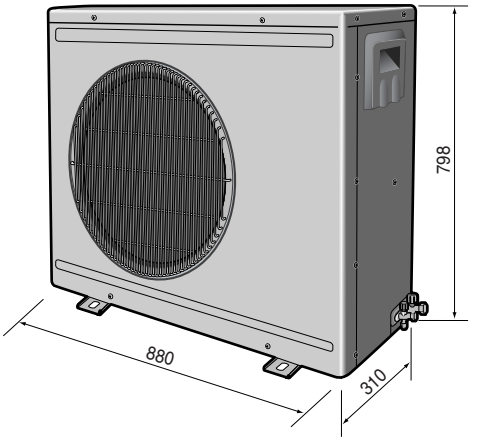
1-2-1 Indoor Unit

(Unit : mm)



1-2-2 Outdoor Unit

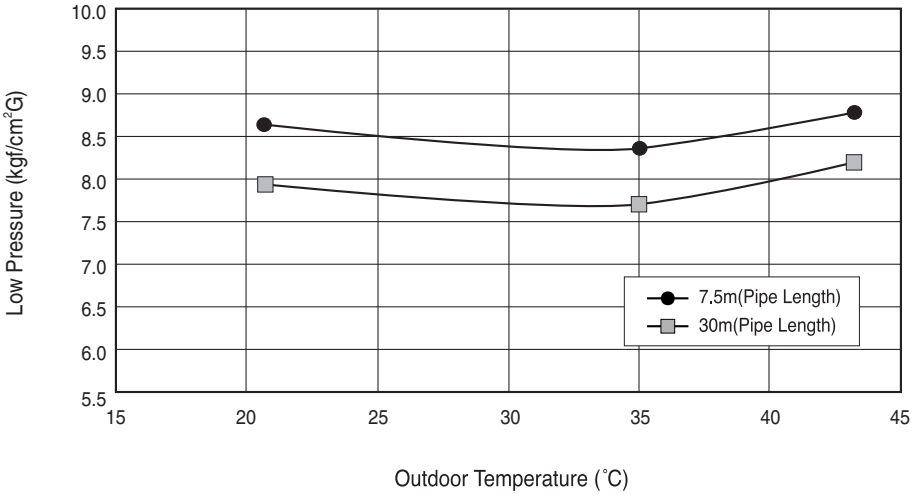
(Unit : mm)



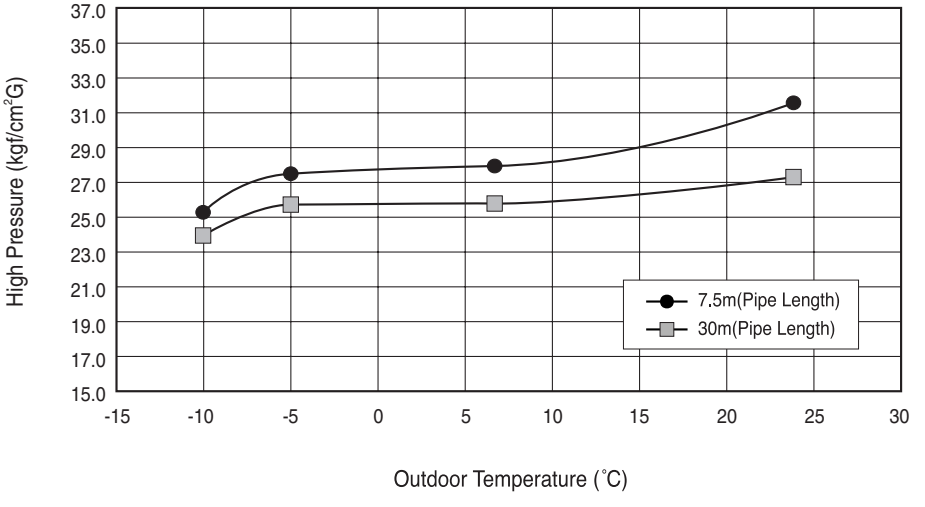
1-3 Pressure Graph

■ DH094EAM / UH094EAMC

Cooling Mode



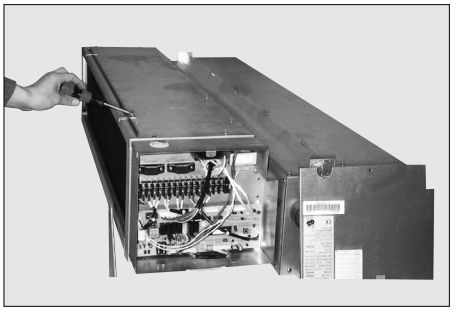
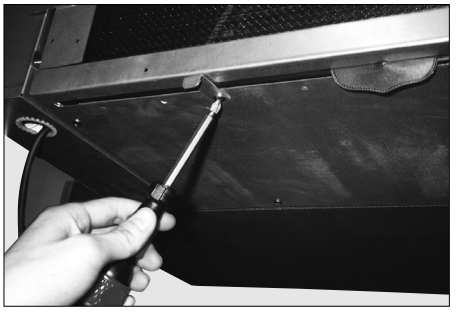
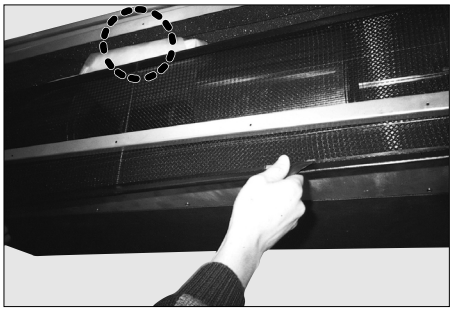
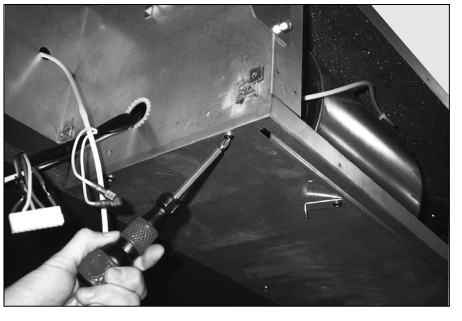
Heating Mode

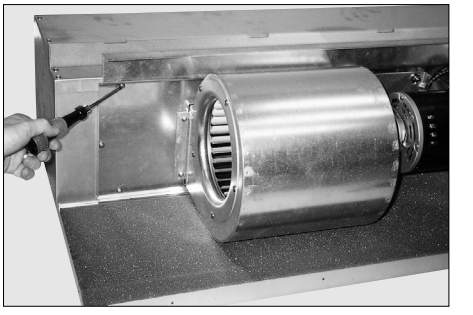
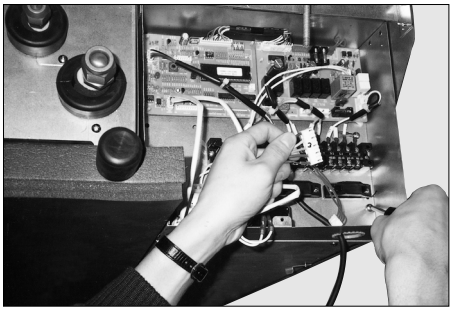


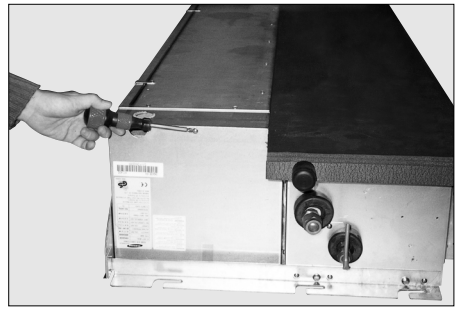
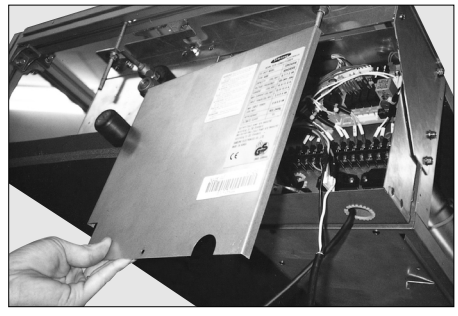
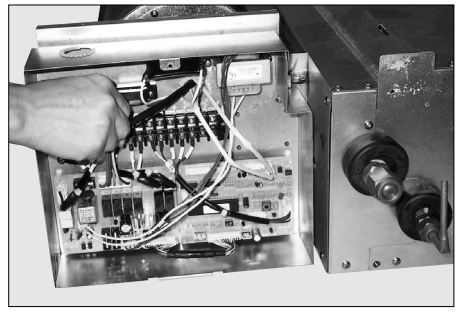
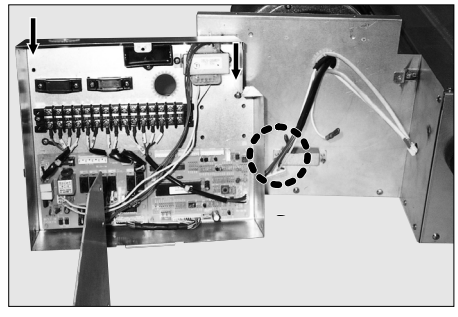
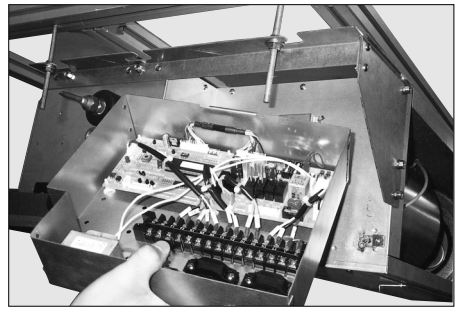
2. Disassembly and Reassembly

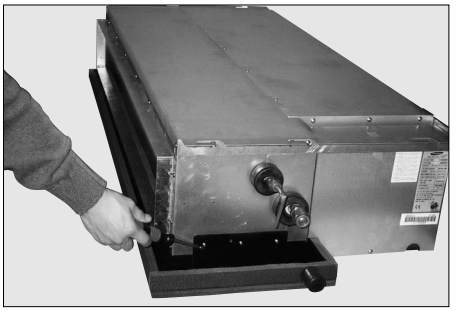
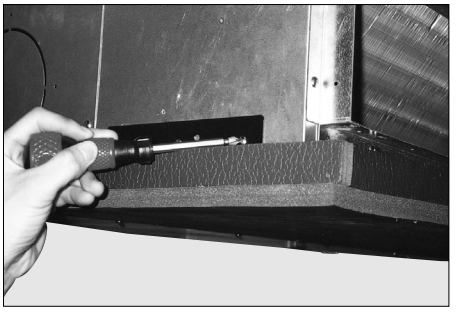
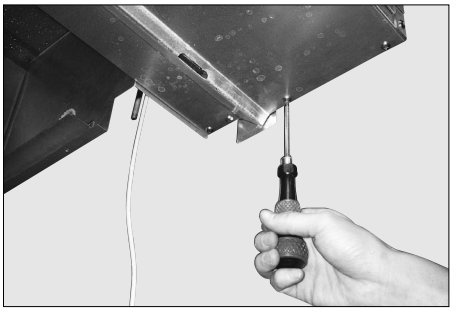
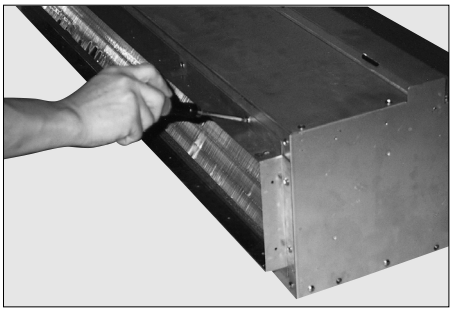
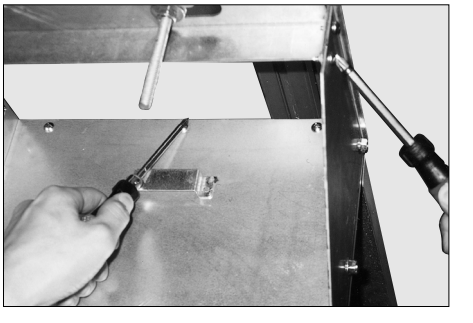
Stop operation of the air conditioner and remove the power cord before repairing the unit.

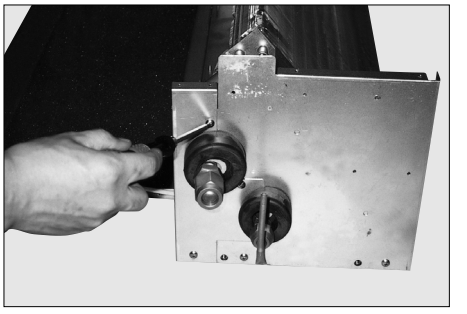
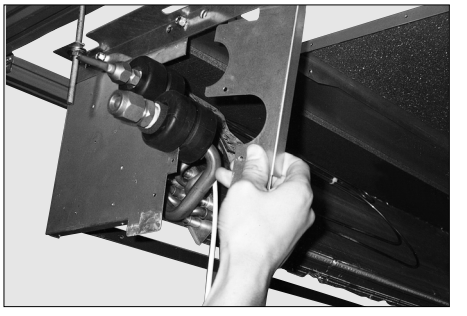
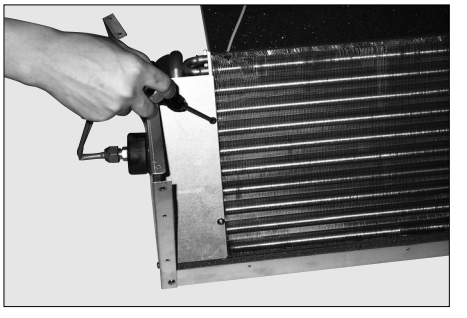
2-1 Indoor Unit

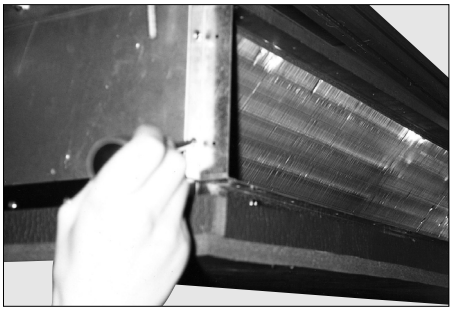
No	Parts	Procedure	Remark
1	Filter-Pre	1) Disassemble 2 screws of indication part and then assemble the direction of 2 Plate-Handle places by use of screw as shown in 2).	
		2) Turn the Plate Handle by hand when removing the Filter-Pre.	
		3) When pulling the Filter-Pre handle, the Filter-Pre can be assembled. ✳ Be sure to remove the cushion on the ◌ marked part after initial installation. (It cause the damage of noise).	
2	Blower & Duct	1) After disassembling 9 places indicating screws, detach Ass'y Cover Bottom.	

No	Parts	Procedure	Remark
		2) Disassemble 6 indicating screws.	
			
		3) Detach the Sensor Holder from the Ass'y Fan Case.	
		4) Detach from Ass'y Control In the capacitor connection wire between the Motor-Fan in and housing Connector.	
		5) Detach the Ass'y Blower and Duct from the set.	

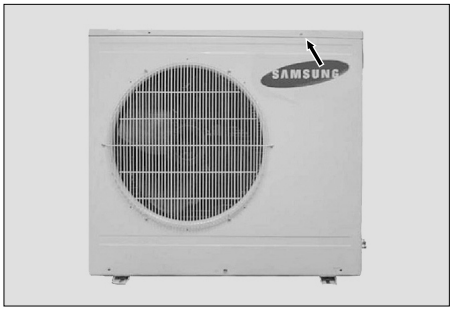
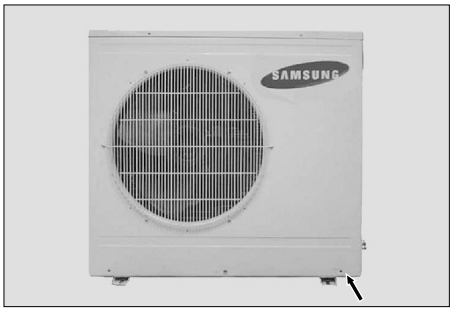
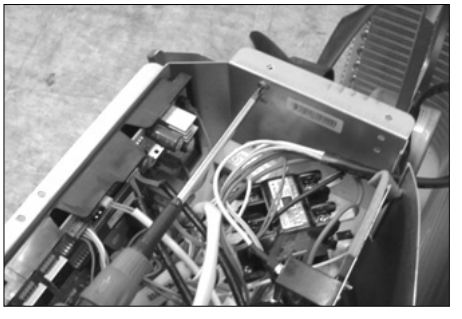
No	Parts	Procedure	Remark
3	Control In	1) After disassembling 1 indicating screw, detach the Cover-Control.	
			
		2) Detach the Motor-Fan in and Sensor Connector connected to PCB.	
		3) Disassemble 2 indicating screws. (arrow mark)	
		4) Hold the Ass'y Control In by hand to lift up a little and then release the status of hanging on the hanging slot.	

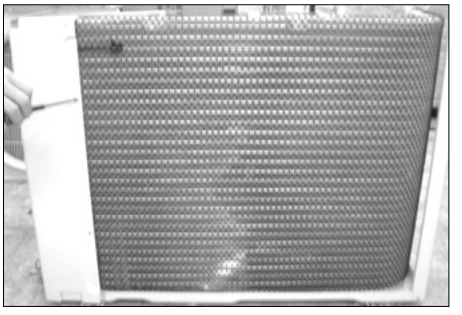
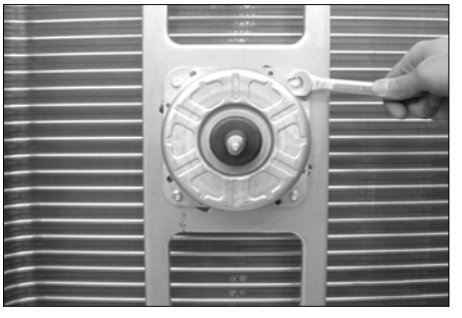
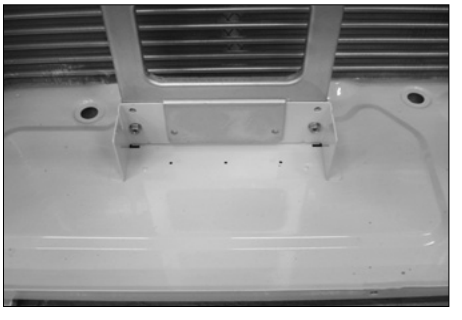
No	Parts	Procedure	Remark
4	Drain Pan	1) Disassemble 4 indicating screws to detach Ass'y Drain Pan. (2 screws each at left and right side)	 
5	Evaporator	✳ Work is possible when disassembling the Ass'y Drain Pan. 1) Disassemble 8 indicating screws. (4 each at left and right side) 2) Disassemble 6 indicating screws. 3) Disassemble 5 indicating screws. ✳ It is possible at the status of No.3 Ass'y Control In disassembly at the time.	  

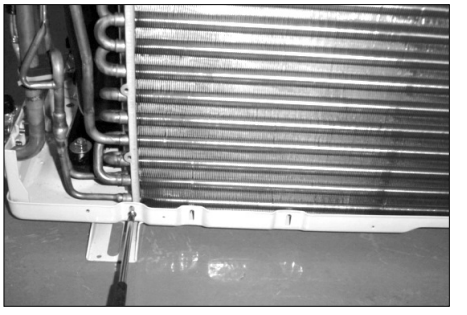
No	Parts	Procedure	Remark
		4) After disassembling 4 indicating screws.	
		5) Pull the Cabinet-Side LF, RH by hand to disassemble.	
		6) Separate 4 indicating screws. (2 each at left and right side)	
		7) Detach it from the set if the Ass'y-Evap pull up.	

No	Parts	Procedure	Remark
6	Holder Outlet	✳ When connecting canvas to the discharge side. 1) Disassemble 4 indicating screws. (2 each at left and right side)	
		2) Disassemble 12 indicating screws. (6 each at upper and lower side) ✳ After connecting canvas to the disassembled Ass'y Holder Outlet 2), attach the Ass'y Holder Outlet to the set in the reverse order.	

2-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen the fixing screws and detach the Cover Control. 2) Detach the connection wire from the Terminal Block.	
		3) Loosen the fixing screws and detach the Upper Cabinet.	
		4) Loosen the fixing screws and detach the Front Cabinet.	
		5) Loosen 2 screws and pull up the Control Box.	
		6) Detach the terminal cover and detach the Comp lead wire.	

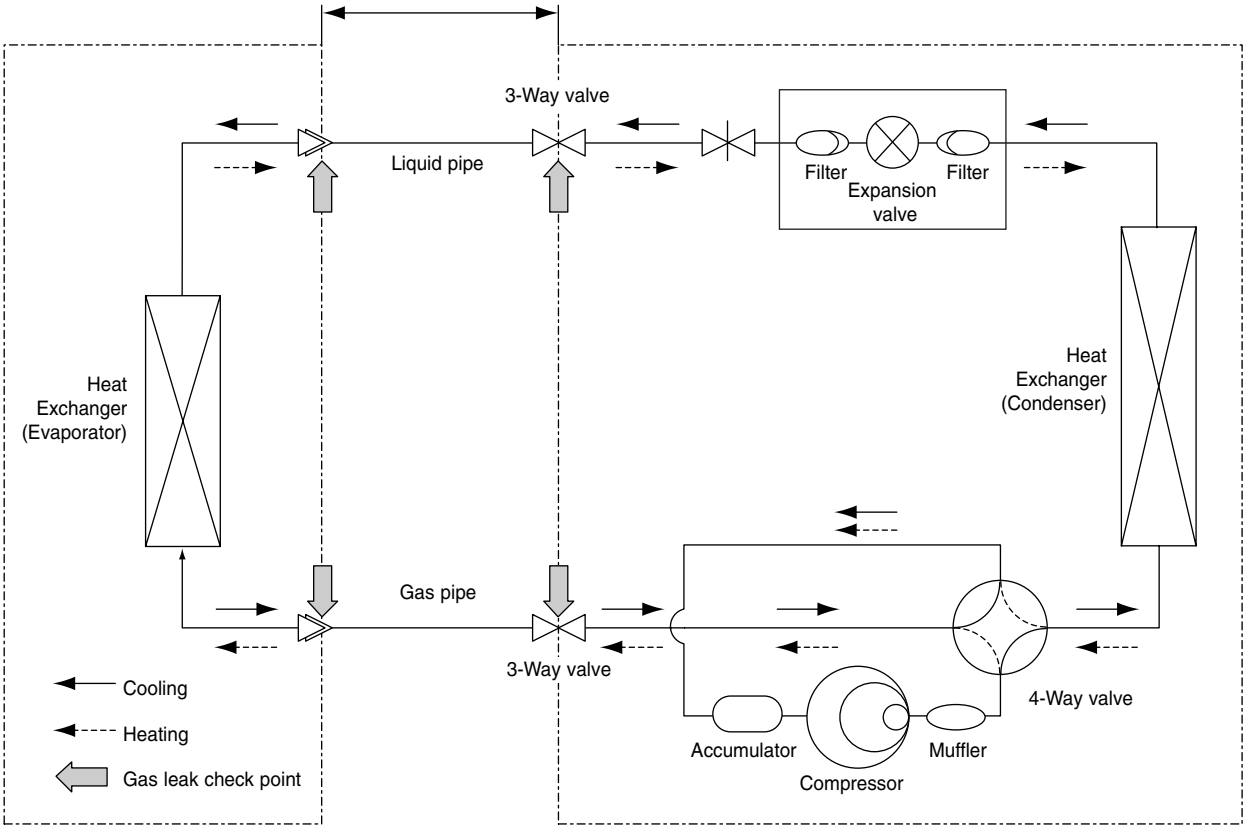
No	Parts	Procedure	Remark
		7) Loosen the fixing screws and detach the Cabinet Side.	
2	Fan & Motor	1) Loosen the fixing bolt and detach the Fan.	
		2) Loosen 4 fixing bolts to detach the Motor.	
		3) Loosen 4 fixing bolts to detach the Bracket Motor.	

No	Parts	Procedure	Remark
3	Heat Exchanger & Compressor	1) Release the refrigerant at first. 2) Disassemble the inlet and outlet pipe by welding. 3) Loosen the fixing screws of the Heat Exchanger. 4) Detach the Heat Exchanger. 5) Loosen four bolts of the Compressor. 6) Detach the Compressor.	

3. Refrigerating Cycle Diagram

Indoor Unit **Outdoor Unit**

* Allowable pipe length : Max. 30m
* Allowable drop distance : Max. 15m



4. Set Up the Model Option

4-1 Setting Option Setup Method

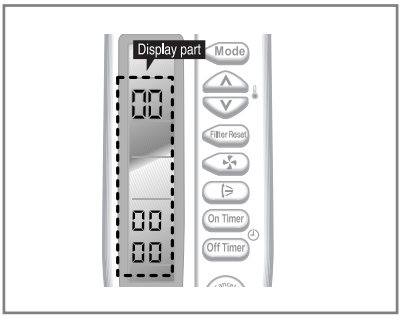
ex) Option No. : 085115-1d2340

Step 1 : **Enter the Option Setup mode.**

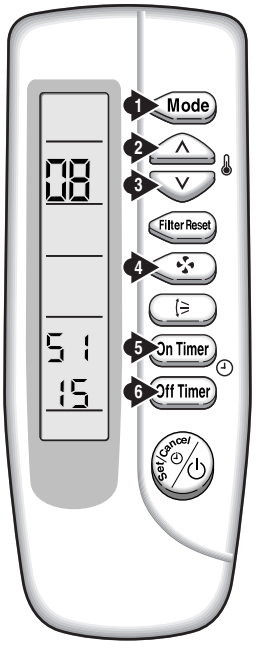
1st Take out the batteries of remote control.

2nd Press the temp. button simultaneously and insert the battery again.

3rd Make sure the remote control display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✳ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00 .
Otherwise, push the Mode button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

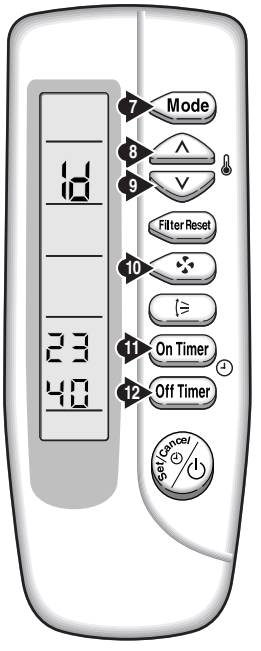
Push the button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Off Timer button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✳ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 02.

8 Push the ∧ button to set the display panel to d .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ∨ button to set the display panel to 2 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the button to set the display panel to 3 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On Timer button to set the display panel to 4 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Off Timer button to set the display panel to 0 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 08 .

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 10 .

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF button( ) with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

■ OPTION ITEMS

REMOTE CONTROL / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
DH094EAM	0	1	5	4	4	2	1	E	0	0	0	0

5. Control Specification & Troubleshooting

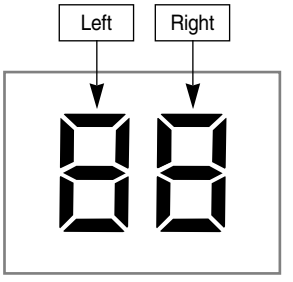
5-1 Operation Specification

5-1-1 Tracking process marked on display part

• Left numeral is an address that outdoor unit transfers communication.
0 - 1 - 2 - 3 ... - F (Calling indoor unit)

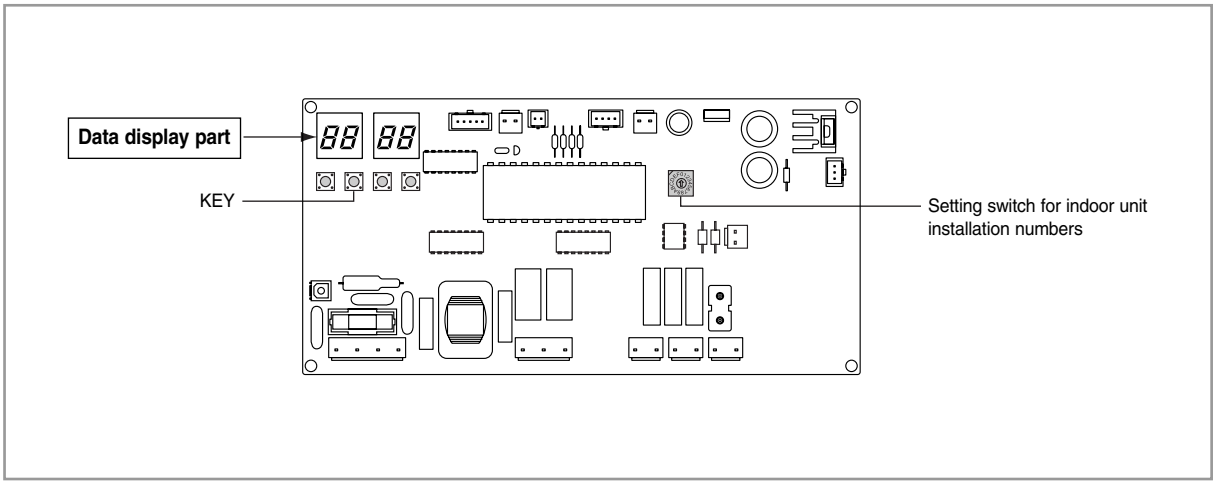
• Right numeral marks address that is answered.

• During the tracking, left calls indoor unit through
0 - 1 - 2 - 3 ... - d - E - F and checks. At this time connected indoor unit set on " 0 " and the indoor unit set 0 address marked on right.
Right side mark is marked by when left side is 0.
(If SW02(MAIN) that set indoor unit address is controlled to " 0 ", indoor unit number marked on outdoor unit is marked by " 0 ".)



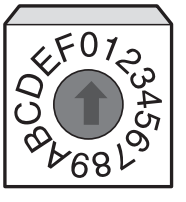
DISPLAY PART (DS1)

5-1-2 Option set part for Outdoor unit PCB



Setting switch for indoor unit installation numbers

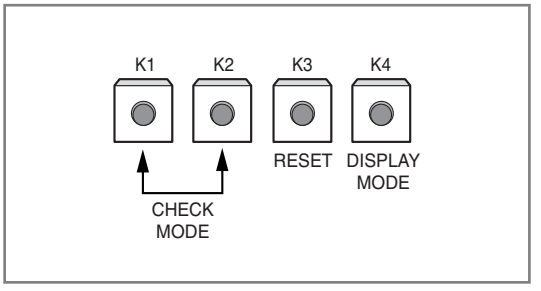
Counts of Indoor Unit Installation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Numbers of the switch	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F



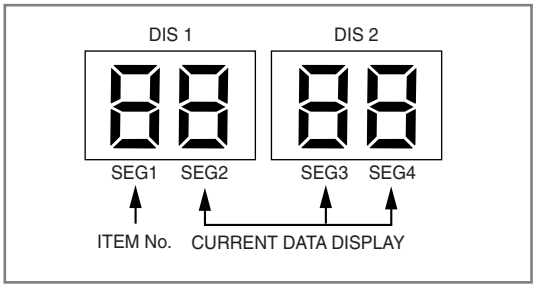
● Example : When the installed indoor unit is one, control the arrow of switch forward to '0' or '1' as figure.

5-1-3 Setting Up Option Switches

■ **KEY**



■ **Display**



■ **Summary of KEY functions**

Function / Number of press times	K1 (Displayed on SEG 3, 4)	K2 (Displayed on SEG 3, 4)	K3 (Displayed on SEG 3, 4)	K4 (Displayed on SEG 3, 4)
1	Adding refrigerant at heating mode	Adding refrigerant at cooling mode	Reset	Displays data
2	Test operation at heating mode	Test operation at cooling mode	-	-
3	End	Pump Down for recovery of refrigerant	-	-
4	-	End	-	-

✳ Use the K1 only for heat pump models.

5-2 Troubleshooting

5-2-1 Wired remote controller display error occurring

■ If an error occurs, TEST is displayed on the wired remote controller.
If you would like to see an error code, press the Test button.

Display	Description	Remarks
416	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
451	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
551	In removing frost	
221	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
237	Error of condensor temperature sensor (Open/Short)	
251	Error of discharge temperature sensor (Open/Short)	
201	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
121	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
122	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
419	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
601	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ↔ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
6EA	Error of setting option for wired remote controller COM2	

5-2-2 LED Display on the receiver & display unit

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

■ LED Display

Error type	LED lamp display					Remarks
	Concealed Type					
	Blue	Red				
	Standard Type					
Power reset	◑	×	×	×	×	
Error of temperature sensor in the indoor unit (Open/Short)	×	×	◑	×	×	
Error of heat exchanger sensor in the indoor unit	◑	×	◑	×	×	
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	◑	×	×	◑	×	
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)	×	×	◑	◑	×	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Communication error between indoor units	◑	×	×	×	◑	
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6'th detection of freezing	×	×	◑	◑	◑	
Detection of the float switch	×	×	×	◑	◑	
Error of setting option switches for optional accessories	×	×	◑	×	◑	
EEPROM error	◑	×	◑	◑	×	
EEPROM option error	◑	◑	◑	◑	◑	

● : On ◑ : Flickering × : Off

5-2-3 Outdoor Unit

If an error occurs during the operation, it is displayed on the outdoor unit PCB.

Display	Explanation	Remark
Er↔P0	High temperature of Discharge (Protection control)	Error about protection control of outdoor unit
Er↔P1	High temperature of outdoor heat exchanger (Protection control)	
Er↔P4	Reverse phase error (Protection control)	
Er↔P5	COMP DOWN to protect being frozen	
Er↔P9	In removing frost	
Er↔t1	Error of OUT TEMP sensor (OPEN/SHORT)	Errors about outdoor unit sensor (OPEN/SHORT) Detection during the operation of indoor unit (Sensing and sending errors into the communication data)
Er↔t2	Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)	
Er↔t3	Error of Discharge TEMP sensor (OPEN/SHORT)	
Er↔E1	System Down caused by communication error after completion of tracking	Communication and indoor unit errors
Er↔E2	Mismatching of the indoor unit numbers set with those communicated after completion of tracking	
Er↔E3	Error of float switch in indoor unit	Self-diagnosis of indoor and outdoor unit (x:indoor unit address)
Er↔E5	Error of setting option switches for optional accessories	
Er↔9x	OPEN/SHORT error of room sensor in indoor unit	
Er↔rx	OPEN/SHORT error of eva in sensor in indoor unit	
Er↔Ux	EEPROM option error	Displays of operating status
Er↔ux	Error of fan starting	
Er↔G4	Open error of electronic expansion valve in outdoor unit (Detected once or more times)	
Er↔G5	Close error of electronic expansion valve in outdoor unit (Detected once or more times)	
tU Flicker	Below -5°C when cooling (Outdoor temperature)	
t0 Flicker	Over 30°C when heating (Outdoor temperature)	
K1, K2, K3, K4, K5 Flicker		

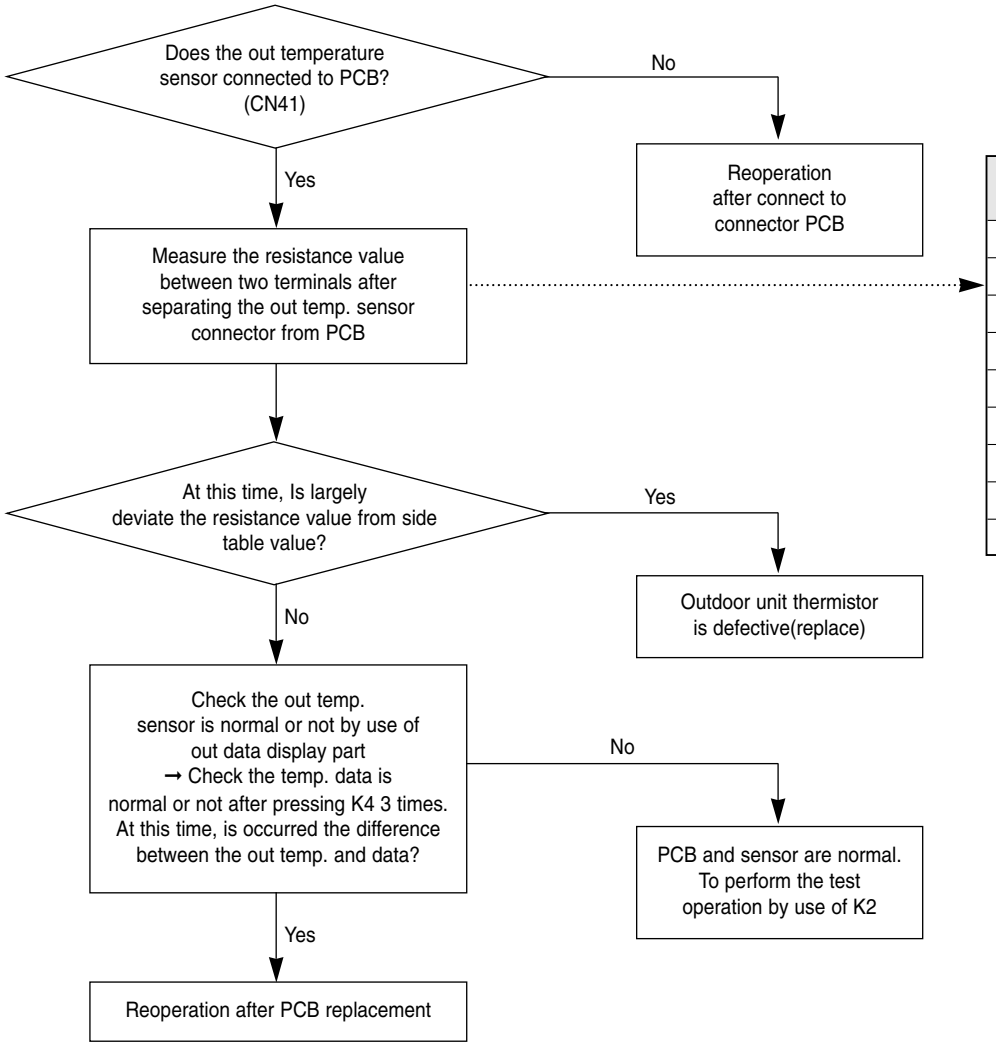
The order of priority : E1 → E2 → E3 → E5 → P0 → P1 → P4 → P5 → P9 → t1 → t2 → t3 → tu → to → G4 → G5 → E3 → qx → rx → vx → K1, K2, K3, K4, K5

- In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

5-3 Sequence for trouble diagnosis

5-3-1 Outdoor temp. sensor(OPEN/SHORT)

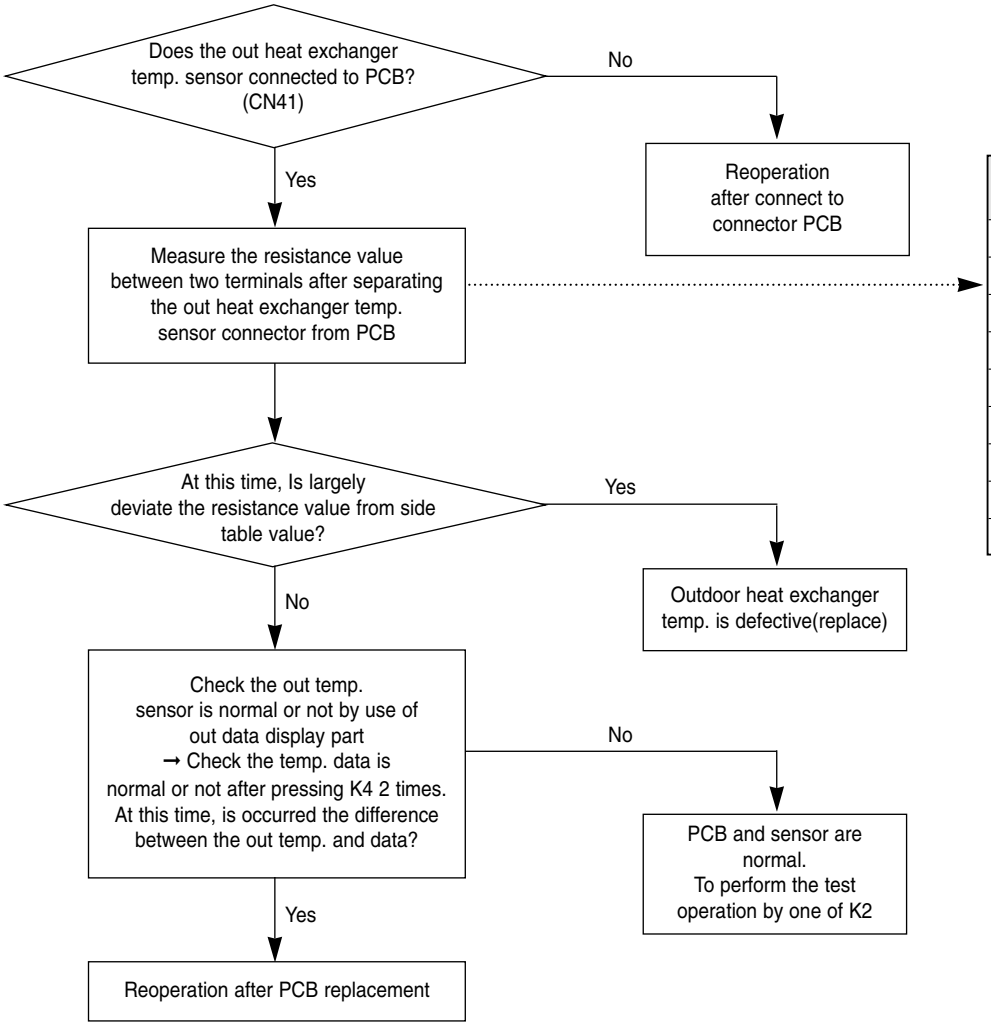
Outdoor unit display	**Er → t1 (Outdoor temp. sensor OPEN/SHORT error)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor temp. sensor
Reason of error	Disconnection or leak of applied sensor


Does the out temperature sensor connected to PCB? (CN41)
No
Reoperation after connect to connector PCB
Yes
Measure the resistance value between two terminals after separating the out temp. sensor connector from PCB
At this time, Is largely deviate the resistance value from side table value?
Yes
Outdoor unit thermistor is defective(replace)
No
Check the out temp. sensor is normal or not by use of out data display part → Check the temp. data is normal or not after pressing K4 3 times. At this time, is occurred the difference between the out temp. and data?
No
PCB and sensor are normal. To perform the test operation by use of K2
Yes
Reoperation after PCB replacement

Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

5-3-2 Outdoor heat exchanger temp. sensor error(OPEN/SHORT)

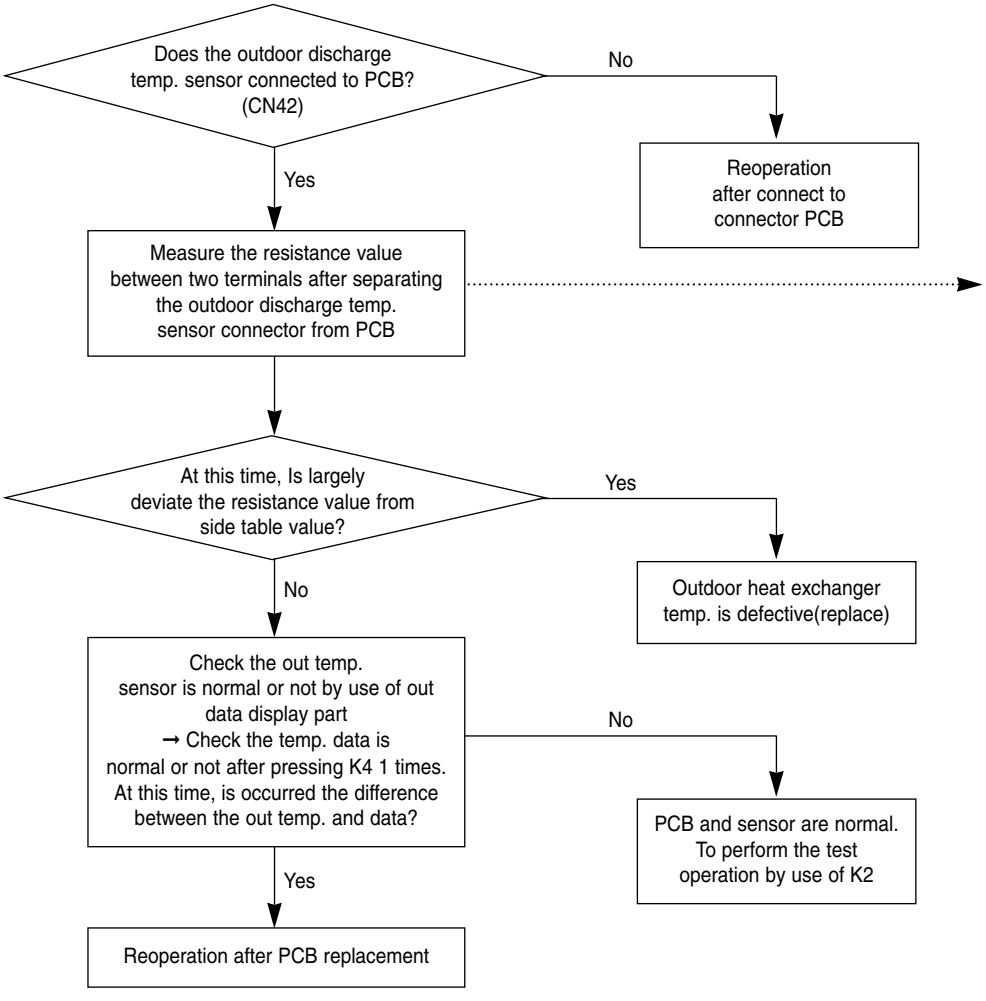
Outdoor unit display	**Er → t2 (Outdoor heat exchanger temp. sensor error(OPEN/SHORT)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor heat exchanger temp. sensor
Reason of error	Disconnection or leak of Applied sensor


Does the out heat exchanger temp. sensor connected to PCB? (CN41)
No
Reoperation after connect to connector PCB
Yes
Measure the resistance value between two terminals after separating the out heat exchanger temp. sensor connector from PCB
At this time, Is largely deviate the resistance value from side table value?
Yes
Outdoor heat exchanger temp. is defective(replace)
No
Check the out temp. sensor is normal or not by use of out data display part → Check the temp. data is normal or not after pressing K4 2 times. At this time, is occurred the difference between the out temp. and data?
No
PCB and sensor are normal. To perform the test operation by one of K2
Yes
Reoperation after PCB replacement

Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

5-3-3 Outdoor discharge temp. sensor error(OPEN/SHORT)

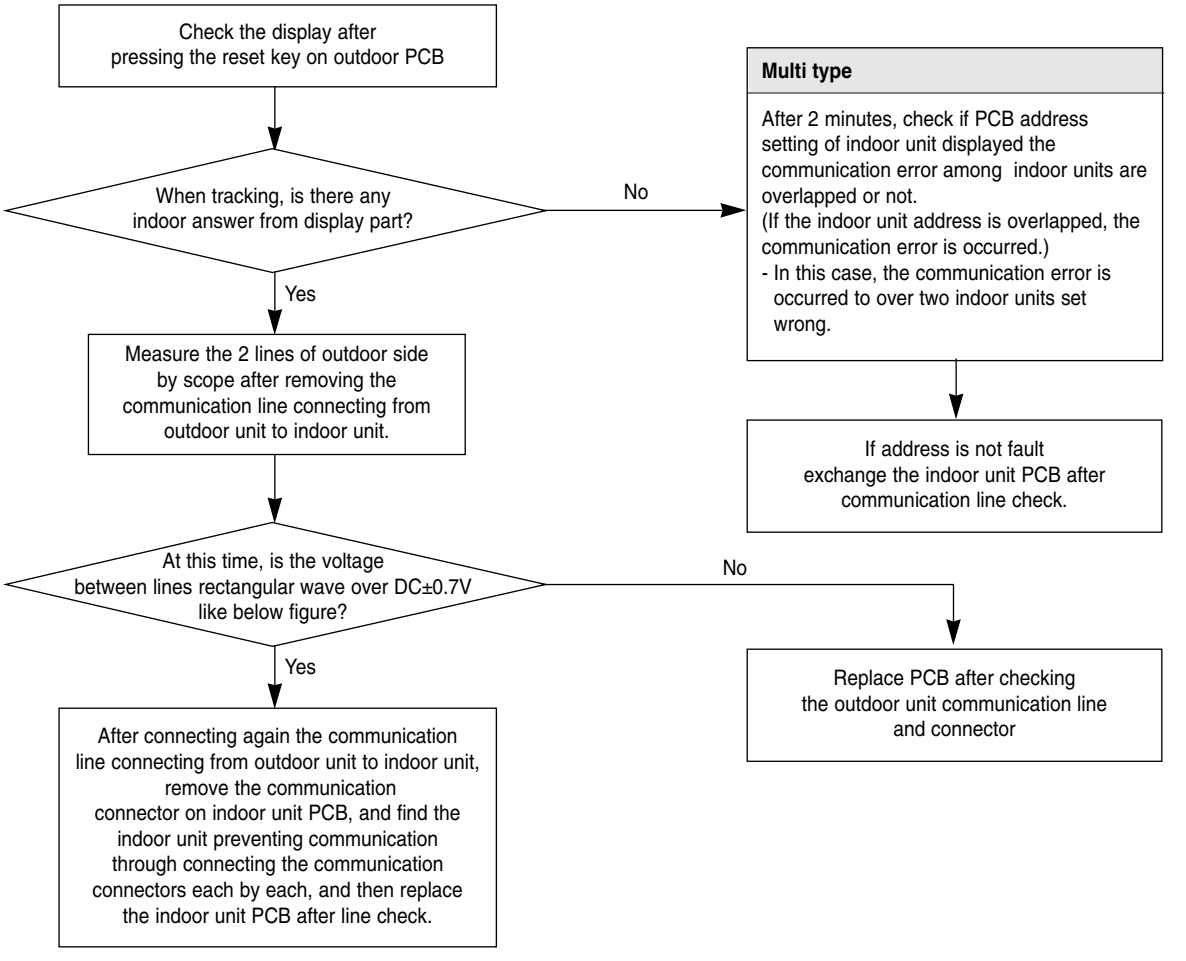
Outdoor unit display	**Er → t3 (Outdoor discharge temp. sensor OPEN/SHORT error)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor discharger temp. sensor
Reason of error	Disconnection or leak of Applied sensor

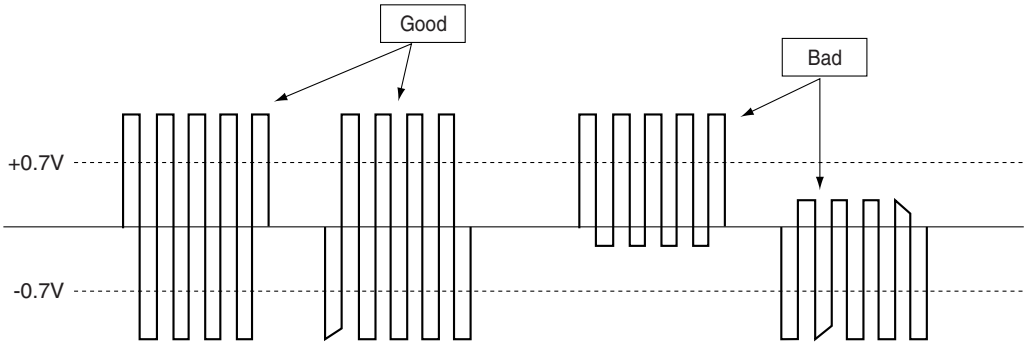

Does the outdoor discharge temp. sensor connected to PCB? (CN42)
No
Reoperation after connect to connector PCB
Yes
Measure the resistance value between two terminals after separating the outdoor discharge temp. sensor connector from PCB
At this time, Is largely deviate the resistance value from side table value?
Yes
Outdoor heat exchanger temp. is defective(replace)
No
Check the out temp. sensor is normal or not by use of out data display part → Check the temp. data is normal or not after pressing K4 1 times. At this time, is occurred the difference between the out temp. and data?
No
PCB and sensor are normal. To perform the test operation by use of K2
Yes
Reoperation after PCB replacement

Temp. (˚C)	Resistance (kΩ)
130	8.9
120	11.2
100	18.5
80	32
60	59
25	200
20	242
10	362
0	553

5-3-4 Communication error during the operation

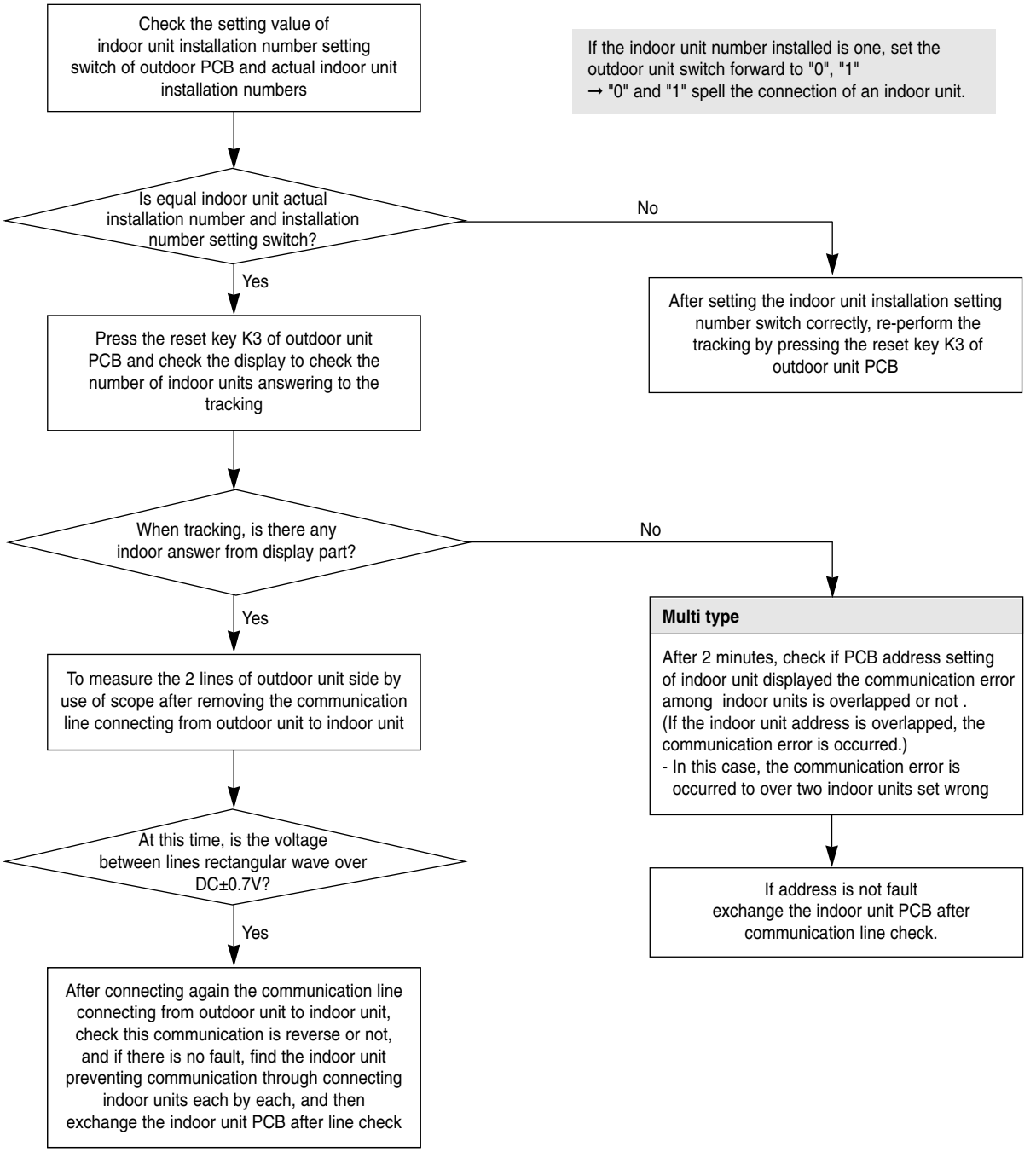
Outdoor unit display	Er → E1 (Communication error during the operation)
Indoor unit display	× (Operation) ◑ (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of communication lines
Reason of error	Communication error between the indoor unit and outdoor unit.


Check the display after pressing the reset key on outdoor PCB
When tracking, is there any indoor answer from display part?
No
Yes
Multi type
After 2 minutes, check if PCB address setting of indoor unit displayed the communication error among indoor units are overlapped or not.
(If the indoor unit address is overlapped, the communication error is occurred.)
- In this case, the communication error is occurred to over two indoor units set wrong.
If address is not fault exchange the indoor unit PCB after communication line check.
Measure the 2 lines of outdoor side by scope after removing the communication line connecting from outdoor unit to indoor unit.
At this time, is the voltage between lines rectangular wave over DC±0.7V like below figure?
No
Yes
Replace PCB after checking the outdoor unit communication line and connector
After connecting again the communication line connecting from outdoor unit to indoor unit, remove the communication connector on indoor unit PCB, and find the indoor unit preventing communication through connecting the communication connectors each by each, and then replace the indoor unit PCB after line check.



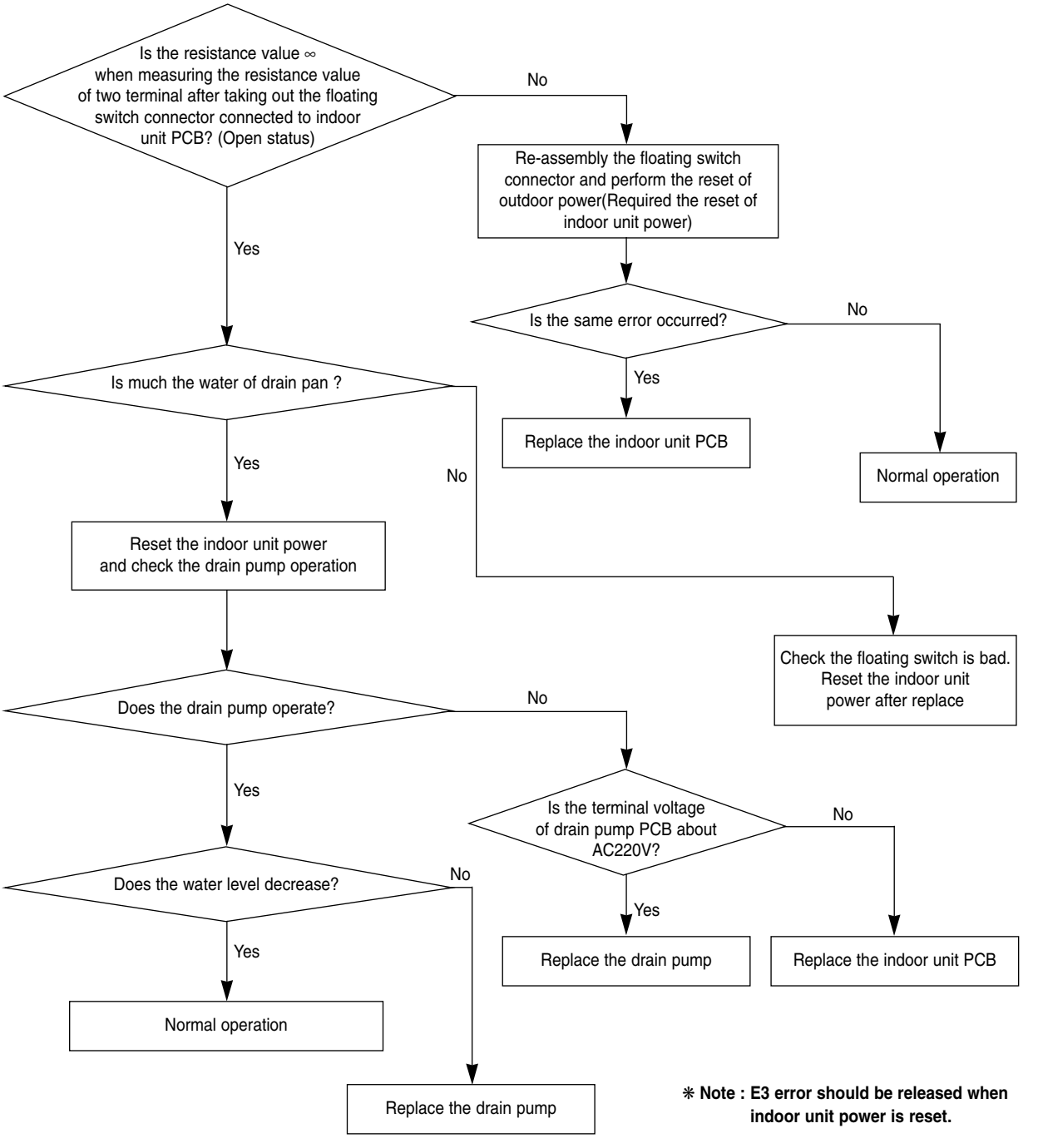
5-3-5 Communication error between indoor and outdoor after initial power input.

Outdoor unit display	**Er → E2 (Tracking error)**
Indoor unit display	× (Operation) ◑ (Timer) ◑ (Airflow) × (Filter)
How to determine	Mismatching the communicating indoor unit and setting switch indoor numbers When outdoor tracking
Reason of error	Communication error between the indoor unit and outdoor unit, and installation number switch setting miss


Check the setting value of indoor unit installation number setting switch of outdoor PCB and actual indoor unit installation numbers
If the indoor unit number installed is one, set the outdoor unit switch forward to "0", "1"
→ "0" and "1" spell the connection of an indoor unit.
Is equal indoor unit actual installation number and installation number setting switch?
No
Yes
After setting the indoor unit installation setting number switch correctly, re-perform the tracking by pressing the reset key K3 of outdoor unit PCB
Press the reset key K3 of outdoor unit PCB and check the display to check the number of indoor units answering to the tracking
When tracking, is there any indoor answer from display part?
No
Yes
Multi type
After 2 minutes, check if PCB address setting of indoor unit displayed the communication error among indoor units is overlapped or not .
(If the indoor unit address is overlapped, the communication error is occurred.)
- In this case, the communication error is occurred to over two indoor units set wrong
To measure the 2 lines of outdoor unit side by use of scope after removing the communication line connecting from outdoor unit to indoor unit
At this time, is the voltage between lines rectangular wave over DC±0.7V?
Yes
If address is not fault exchange the indoor unit PCB after communication line check.
After connecting again the communication line connecting from outdoor unit to indoor unit, check this communication is reverse or not, and if there is no fault, find the indoor unit preventing communication through connecting indoor units each by each, and then exchange the indoor unit PCB after line check

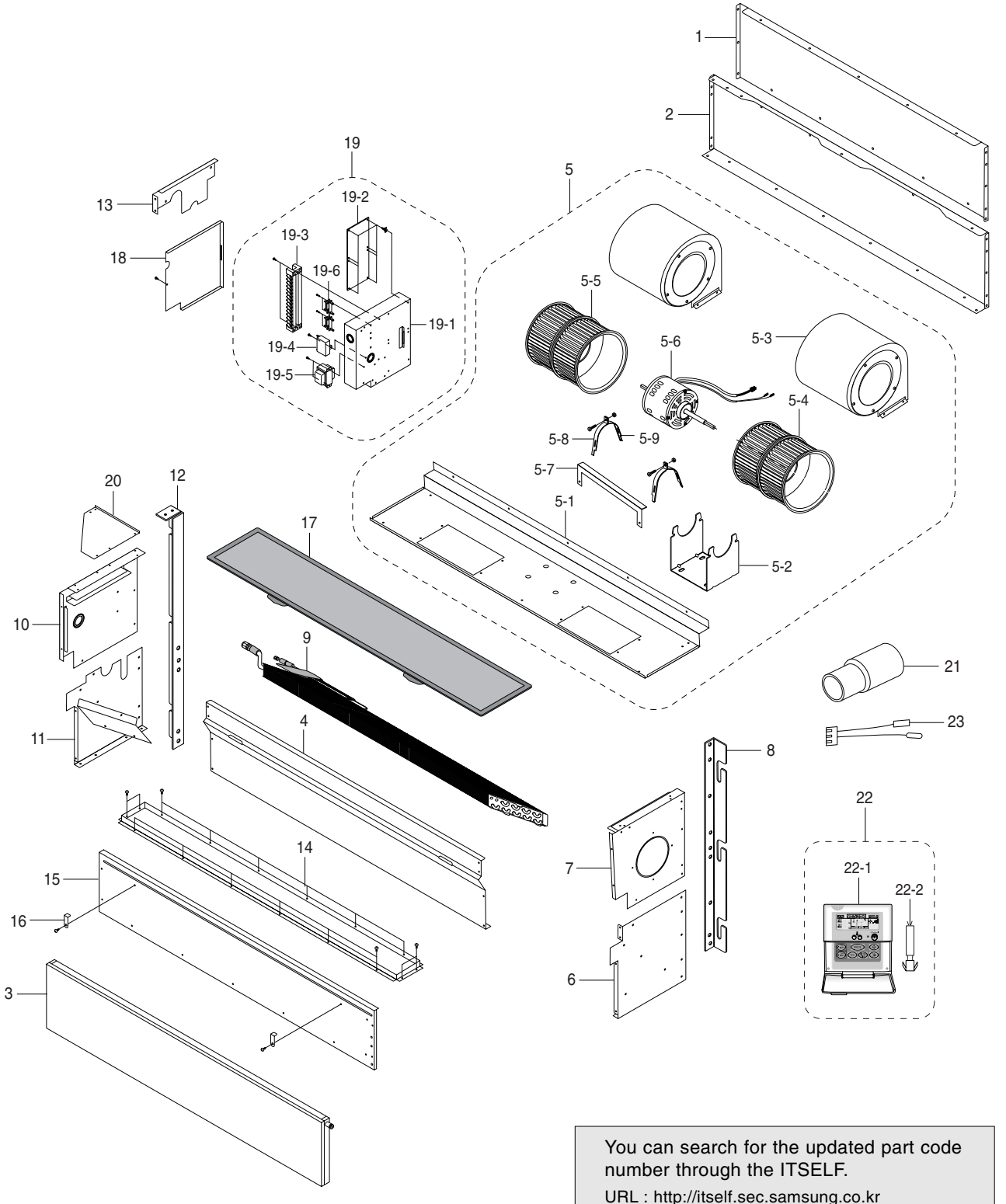
5-3-6 Indoor float switching error

Outdoor unit display	**Er → E3 (Indoor float switching error)**
Indoor unit display	× (Operation) × (Timer) ◑ (Airflow) ◑ (Filter)
How to determine	The status continues over 1 minute that indoor unit float switch is opened.
Reason of error	The rising of water level of drain pan due to the disorder of indoor unit drain pump, the badness of detection sensor


Is the resistance value ∞ when measuring the resistance value of two terminal after taking out the floating switch connector connected to indoor unit PCB? (Open status)
No
Re-assembly the floating switch connector and perform the reset of outdoor power(Required the reset of indoor unit power)
Yes
Is the same error occurred?
No
Yes
Replace the indoor unit PCB
Normal operation
Is much the water of drain pan ?
Yes
No
Reset the indoor unit power and check the drain pump operation
Check the floating switch is bad. Reset the indoor unit power after replace
Does the drain pump operate?
No
Yes
Is the terminal voltage of drain pump PCB about AC220V?
No
Yes
Does the water level decrease?
No
Yes
Replace the drain pump
Replace the indoor unit PCB
Normal operation
Replace the drain pump
✻ Note : E3 error should be released when indoor unit power is reset.

6. Exploded Views and Parts List

6-1 Indoor Unit



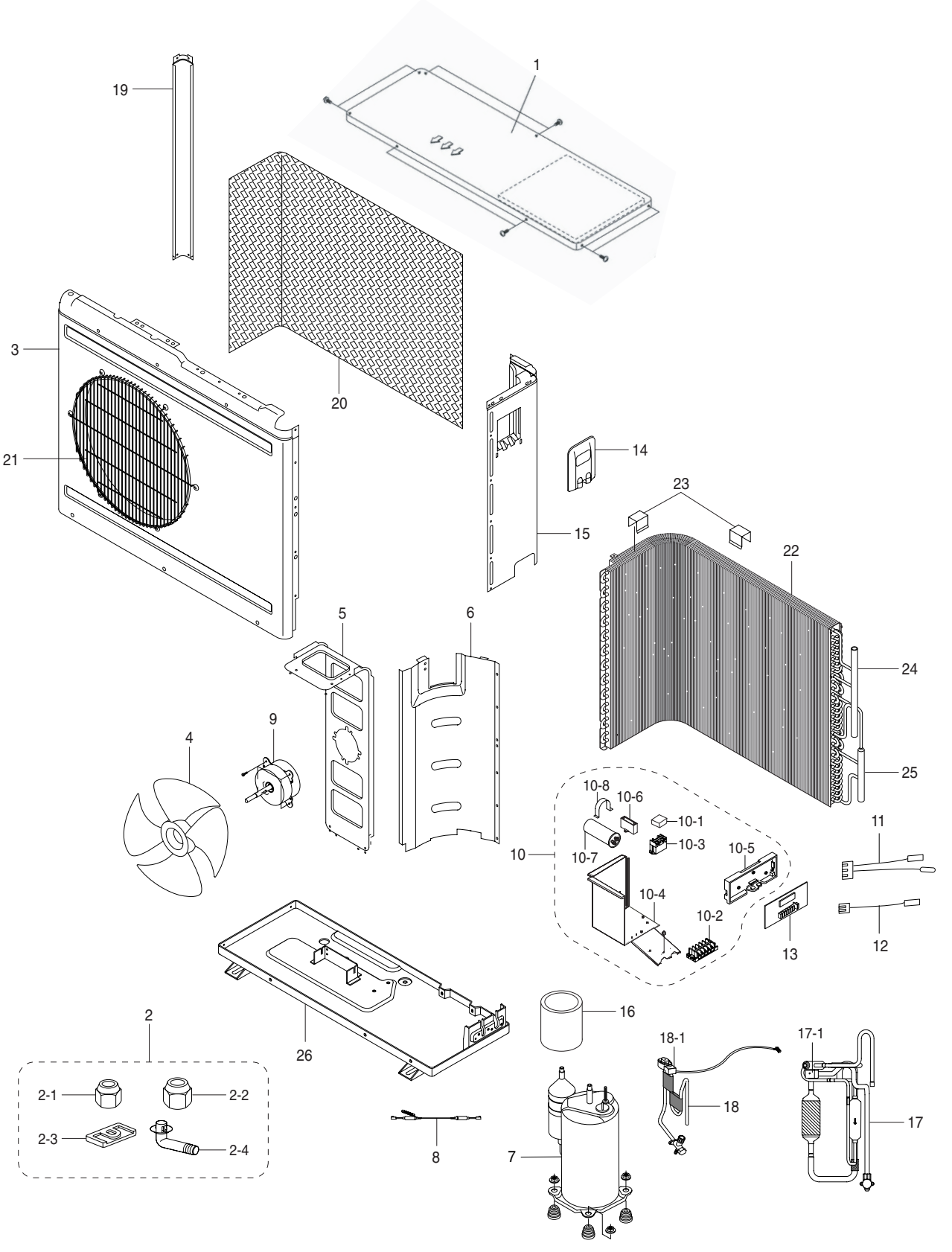
You can search for the updated part code number through the ITSELF.

URL : http://itself.sec.samsung.co.kr

■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	SA / SNA
1	DB63-00076A	COVER-TOP	SGCC-M T0.8	1	SA
2	DB63-00074A	COVER-CASE DUCT	SGCC-M T0.8	1	SA
3	DB94-00022A	ASS'Y-DRAIN PAN	ASS'Y, BLK	1	SA
4	DB61-00099A	CASE-BOTTOM	SGCC-M, T0.8	1	SA
5	DB94-00023C	ASS'Y-BLOWER DUCT	ASS'Y	1	SA
5-1	DB64-00071A	PANEL-DUCT HOLDER	SGCC-M, T1.2	1	SA
5-2	DB61-00155A	BRACKET-MOUNT MOTOR	SGCC-M, T2.0	1	SA
5-3	DB90-00121A	ASS'Y-CASE FAN	ASS'Y	2	SA
5-4	DB67-00046A	BLOWER-LF	SGCC-M, ø175	1	SA
5-5	DB67-00046B	BLOWER-RH	SGCC-M, ø175	1	SA
5-6	DB31-00025E	MOTOR-FAN	OSME-1204 SAC	1	SA
5-7	DB61-00499A	BRACKET-MOTOR GUIDE	SGCC-M, T1.6	1	SA
5-8	DB69-60012A	BAND-MOTOR R	SBHG1T1.6x13x105	2	SA
5-9	DB69-60013A	BAND-MOTOR L	SBHG1T1.6x13x105	2	SA
6	DB90-00117A	ASS'Y-CABI LF	ASS'Y	1	SA
7	DB90-00119C	ASS'Y-CABI INLET LF	ASS'Y	1	SA
8	DB70-00026B	PLATE-HANGER LF	SGCC-M, T2.0	1	SA
9	DB96-03152C	ASS'Y-EVAP UNIT	ASS'Y	1	SA
10	DB90-00120C	ASS'Y-CABI INLET RH	ASS'Y	1	SA
11	DB90-00118A	ASS'Y-CABI SIDE RH	ASS'Y	1	SA
12	DB70-00027B	PLATE-HANGER RH	SGCC-M, T2.0	1	SA
13	DB64-00121A	CABINET-SIDE RH B	SGCC-M, T0.8	1	SA
14	DB90-00113A	ASS'Y-HOLDER OUTLET	ASS'Y	1	SA
15	DB90-00114A	ASS'Y-COVER BOTTOM	ASS'Y	1	SA
16	DB71-00019A	PLATE-HANDLE	SGCC-M, T1.2	2	SA
17	DB74-00006A	FILTER-PRE	PE, 36x40	1	SA
18	DB63-01021A	COVER-CONTROL	SGCC-M, T0.8	1	SA
19	DB93-01616K	ASS'Y-CONTROL IN	ASS'Y	1	SNA
19-1	DB90-00116A	ASS'Y-CASE CONTROL	ASS'Y	1	SA
19-2	DB93-00849R	ASS'Y-PCB MAIN	LSP, PCB ASS'Y	1	SA
19-3	DB65-00004H	TERMINAL-BLOCK 6P	DAF-6P	1	SA
	DB65-00169A	TERMINAL-BLOCK 6P	DAF-6P	1	SA
19-4	2301-001378	C-FILM	3.5µF/450VAC	1	SA
19-5	DB26-10065C	TRANS-POWER	DC17 AC230V 50Hz	1	SA
19-6	DB61-40291B	HOLDER-WIRE	PP, T2.0, BLK	2	SNA
20	DB61-00190A	SUPPORTER-HANGER	-, SGCC-M,T2.0, -, -, -, ADH2400E	1	SA
21	DB67-00111A	DRAIN-SOCKET	DUCT TYPE, NBR, -, BLK, T3.5xL8	1	SA
22	DB97-01904G	ASS'Y-WIRED REMOTE	COMMO, -, -, -, -, Y, MWR-TH00	1	SA
22-1	DB93-01766C	ASS'Y-PCB REMOCON	MWR-TH00, DVM PLUS	1	SA
22-2	DB39-00933A	CONNECT WIRE-COMM2	AWR-TH00	1	SA
23	DB32-00016B	THERMISTOR-ASS'Y	-,-,-,-,ADC-35ZH3	1	SA

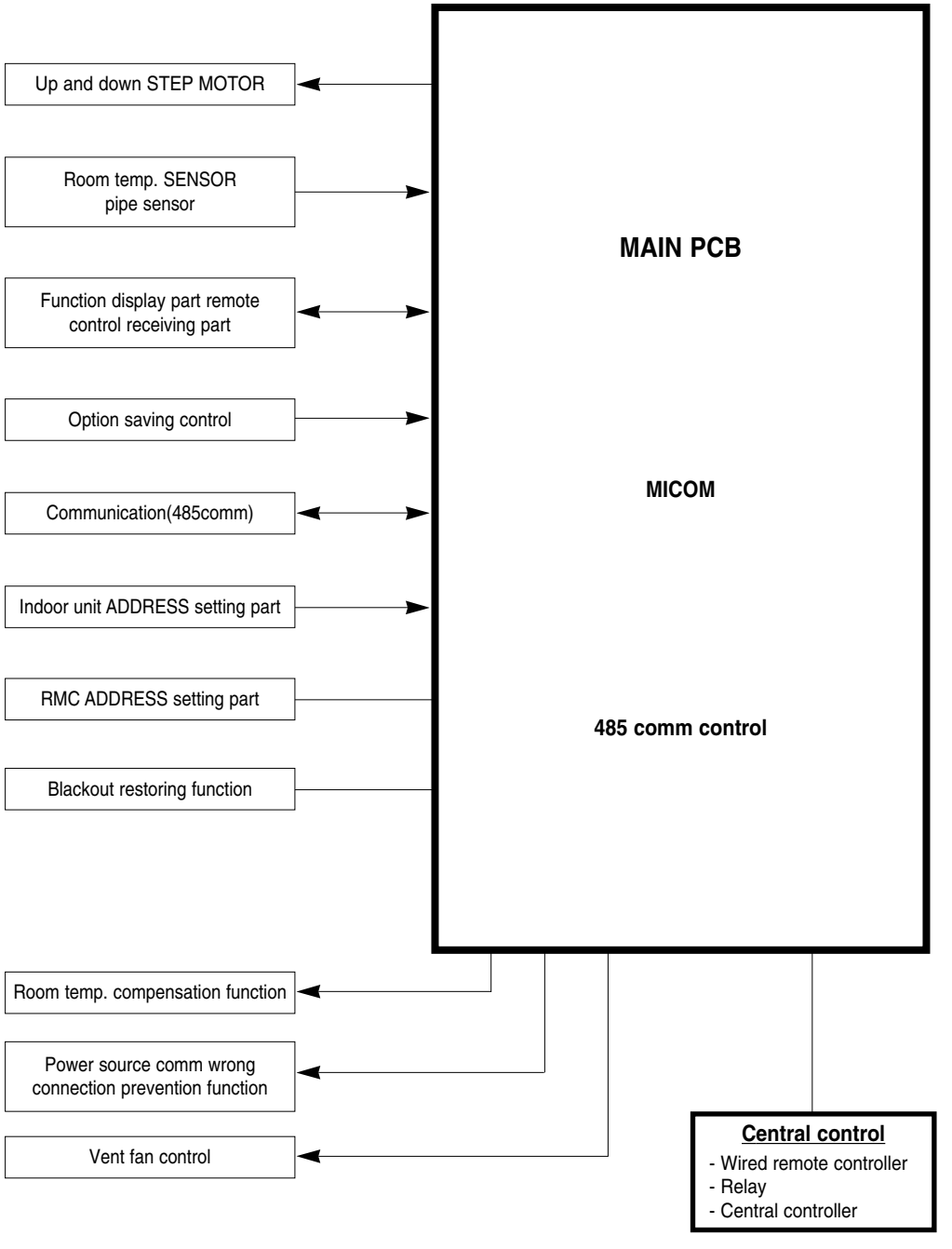
6-2 Outdoor Unit



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	SA/SNA
1	DB63-10213C	COVER-TOP	-,ACRYL,-,-,-,-,-,-	1	SA
2	DB97-00369A	ASS'Y ACCESSORY	-,-,-,-,18K,24K,-,4WAY-CASSETTE,HEATPUMP	1	SA
2-1	DB60-30010B	NUT-FLARE	HEX,-,5/8-18UNF,-,C3771BD,-	1	SNA
2-2	DB60-30010D	NUT-FLARE	HEX,-,7/18-14UNF,-,C3771BD,-	1	SNA
2-3	DB73-20134A	RUBBER-LEG	RUBBER,-,BLK,-	4	SNA
2-4	DB67-20011A	DRAIN-PLUG OUT	ASH-1814ER,PE,-,WHT,-	1	SNA
3	DB90-01825A	ASS'Y CABINET-FRONT	UH094EAM,APH-H2320	1	SA
4	DB67-50074A	FAN-PROPELLER	AS-1569,-,-	1	SA
5	DB61-20094B	BASE-MOTOR	32K,-,-,-,-,-,SSEC	1	SA
6	DB67-00290A	PARTITION	P-PJT,SGCC-M,T1.0,-,-,-,-,SSEC	1	SA
7	DB95-00571A	ASS'Y-COMP	UH094EAM,NN40VAAMT	1	SA
8	DB95-00505D	ASS'Y HEATER-COMP	UH094EAM,3.2HP, HEATPUMP	1	SA
9	DB31-00260A	MOTOR FAN	OSME-1004SRC,3.2HP(SILHOUETTE),1A,50Hz,200W,230V,1050/400,50Hz,230V,-,-,-	1	SA
10	DB93-03068A	ASS'Y CONTROL OUT	HP,NO,60,-,380V~,50Hz,-,-,R-410A,ROTARY,-,EUROPE,-,220-240V 50Hz,-,-,-,UH094EAM	1	SNA
10-1	DB26-10070F	POWER TRANS	DC17,AC230,-,-,-,DC17,DC0.6A,-	1	SA
10-2	DB65-00112A	TERMINAL BLOCK	-,6P,600V,35A,-,-,-,DVS	1	SA
10-3	DB35-00046A	RELAY-POWER	XMCO-252LBBC,25A	1	SA
10-4	DB90-01264A	ASS'Y CASE-CONTROL OUT	UH070EZM,SSEC,DPM	1	SA
10-5	DB61-01582A	CASE PCB	UH070EZM,ABS,2.5,-,-,BLACK,DPM,5V	1	SA
10-6	2301-001367	C-FILM,LEAD-OTHER	6000nF,+10-5%,450V,BK,58x25x40mm,-	1	SA
10-7	2501-001236	C-OIL	30uF,450V,BK,53x85mm,20.6	2	SA
10-8	DB61-02319A	CLIP-CAPACITOR	UH094EAMC,-,-,-,SSEC	1	SA
11	DB32-00102A	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50mA,5V,-,-,SSEC	1	SA
12	DB32-00101A	THERMISTOR-OUT	204CT,200K/25,3435K,-20-150,50mA,5V,-,-,SSEC	1	SA
13	DB93-02919C	ASS'Y PCB MAIN	UH094EAMC,SSEC	1	SA
14	DB90-40176B	ASS'Y COVER-CONTROL	AS-126-/1210,-	1	SA
15	DB64-00862A	CABINET-SIDE RH PAINT	W1-PJT,-,-,-,-,-,SC-97445T,-	1	SA
16	DB62-02868A	INSULATION-SOUND	UH094EAM,GRAY FELT,10,740,342,GRAY,NON FLAMMABILITY,-,-	1	SA
17	DB99-00588A	ASS'Y VALVE 4WAY	UH094EAM,SSEC	1	SA
17-1	DB33-00058A	ASS'Y-SOLENOID VALVE	-,SSEC	1	SA
18	DB97-02975A	ASS'Y VALVE-EXPANSION	UH094EAM,-,-,-,SSEC	1	SA
18-1	DB62-02567K	VALVE EXPAN-COIL	RVPC035B2M3,ASS'Y,30~90pps,33KG,RED,480,O1.4,DC12V,1-2ø	1	SA
19	DB63-00758A	GUARD COND-(PAINT)	P-PJT,SECC-P ,T=1.6,-,-,-,SSEC	1	SA
20	DB61-00821A	GUIDE-SCREEN	AP-L2340,P.E.H 100%,T2.5,1025,770,BLK,-	1	SA
21	DB63-00691A	GUARD FAN	AP-SR2370,HSWR,,,,SC-90073T,460 FAN 3u	1	SA
22	DB96-04497A	ASS'Y COND	UH094EAMC,-	1	SA
23	DB70-00163A	PLATE-COND	MH18VA1,SGCC-M, ,T0.8, ,-, ,-,MULTI-INVERTER	2	SA
24	DB96-03814B	ASS'Y COLLECTOR	ASS'Y COLLECTOR IN,,HEAT PUMP	1	SA
25	DB96-03815B	ASS'Y DISTRIBUTOR	ASS'Y DISTRIBUTOR OUT,HEAT PUMP	1	SA
26	DB90-00887F	ASS'Y BASE OUT	UH094EAMC,SSEC	1	SA

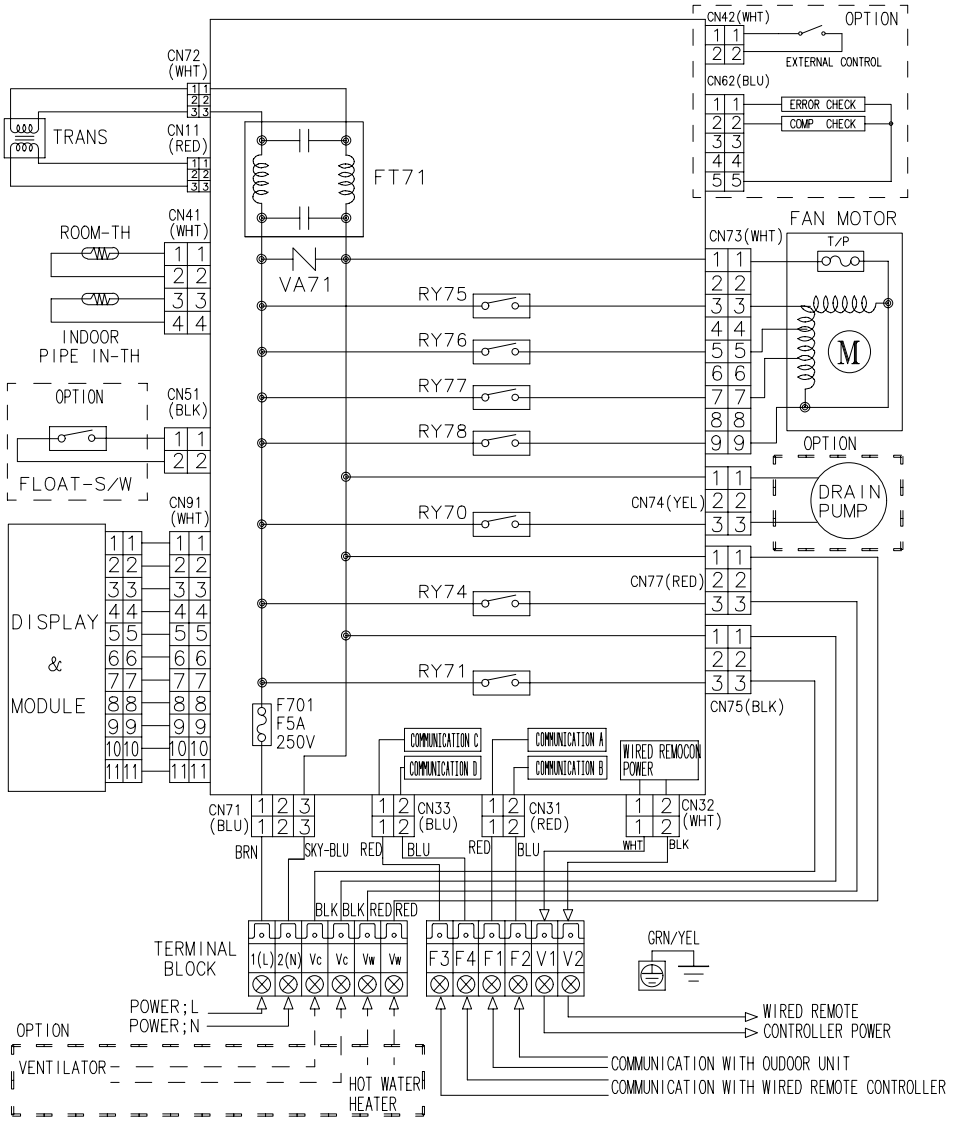
7. Block Diagram



- 485 comm applied, room temp. compensation
- EEPROM option saving and blackout restoring function
- Power-comm line misconnection prevention function
- Cost saving related sub-option separation between indoor unit communication part
- Option part sub-development according to the SVC structure

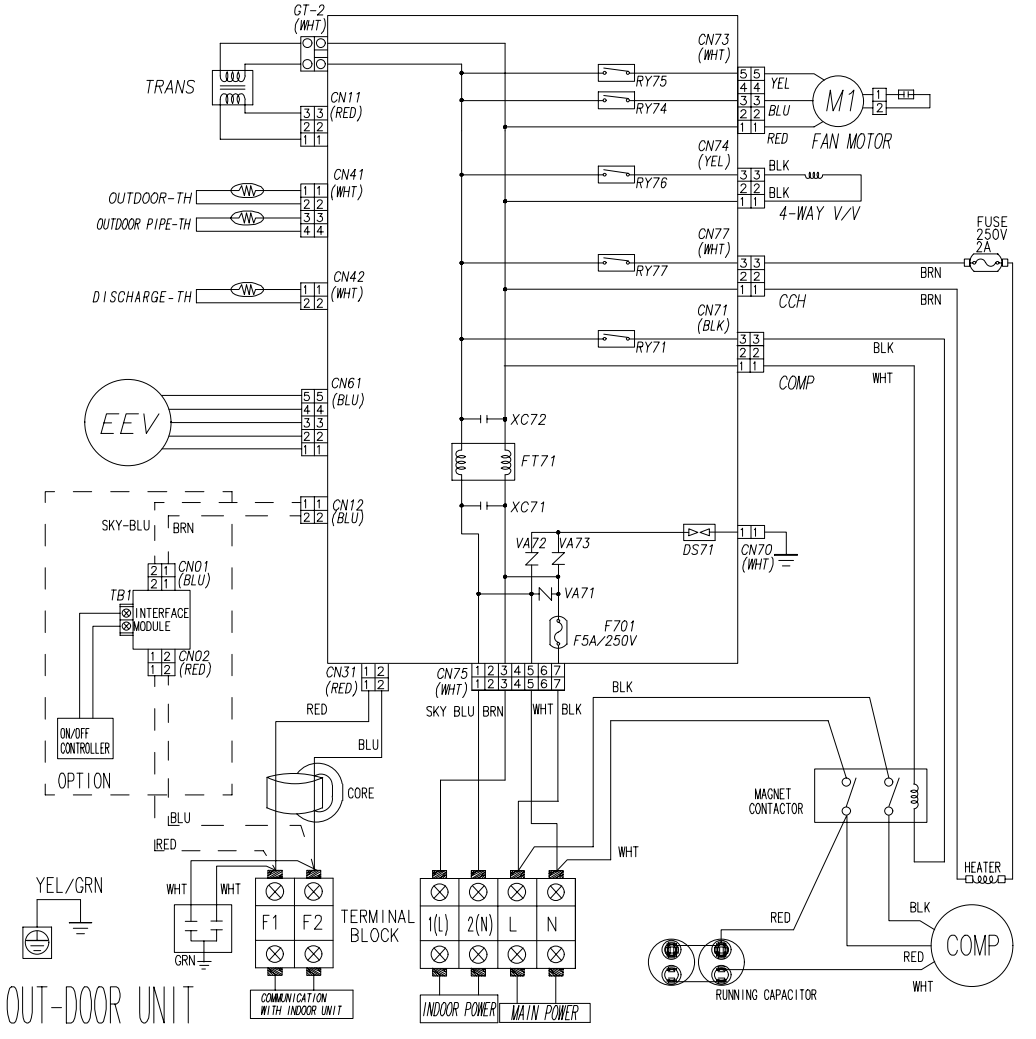
8. Wiring Diagram

8-1 Indoor Unit



Code No : DB98-20414A

This Document can not be used without Samsung's authorization.

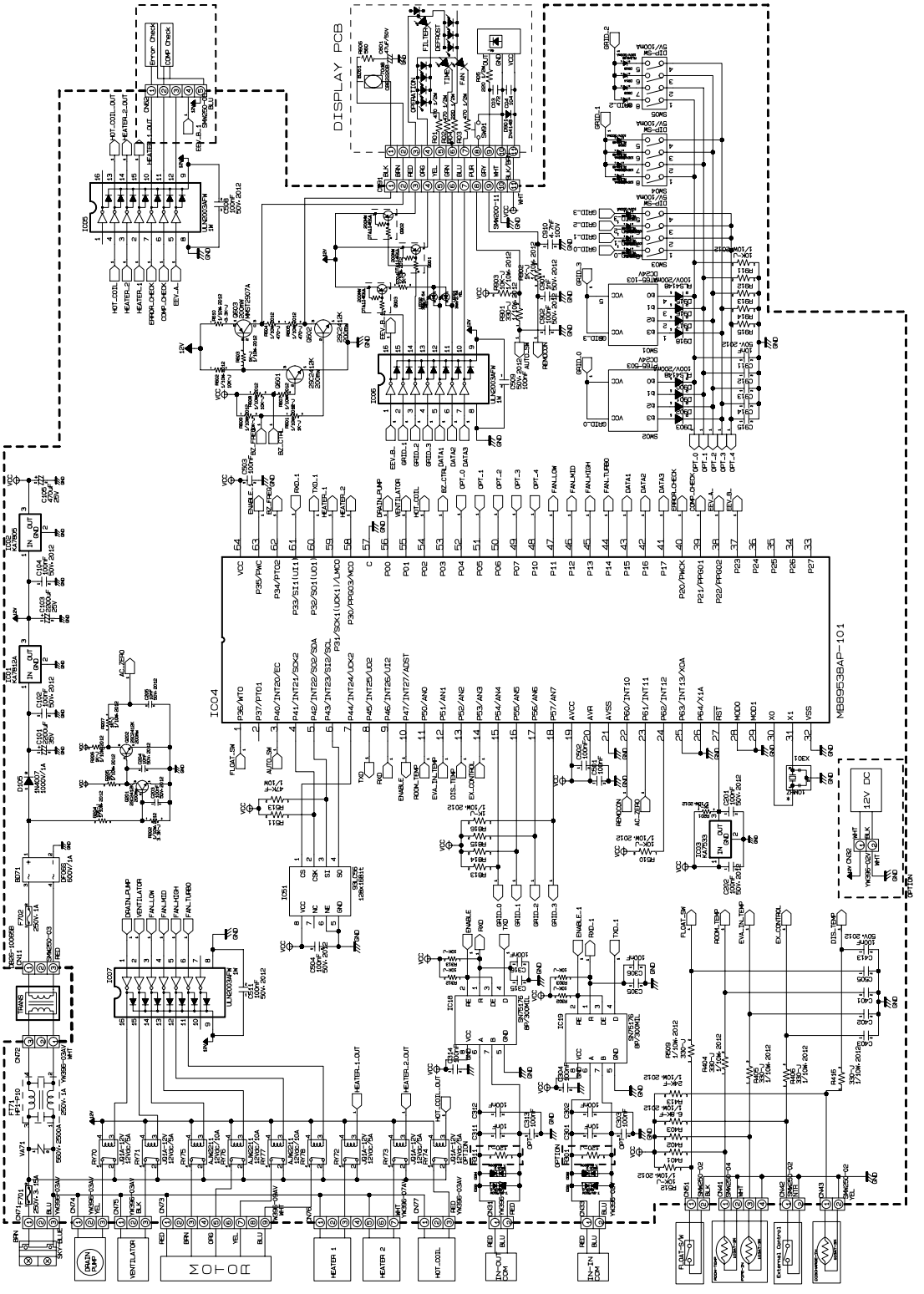


Code No : DB98-19361A

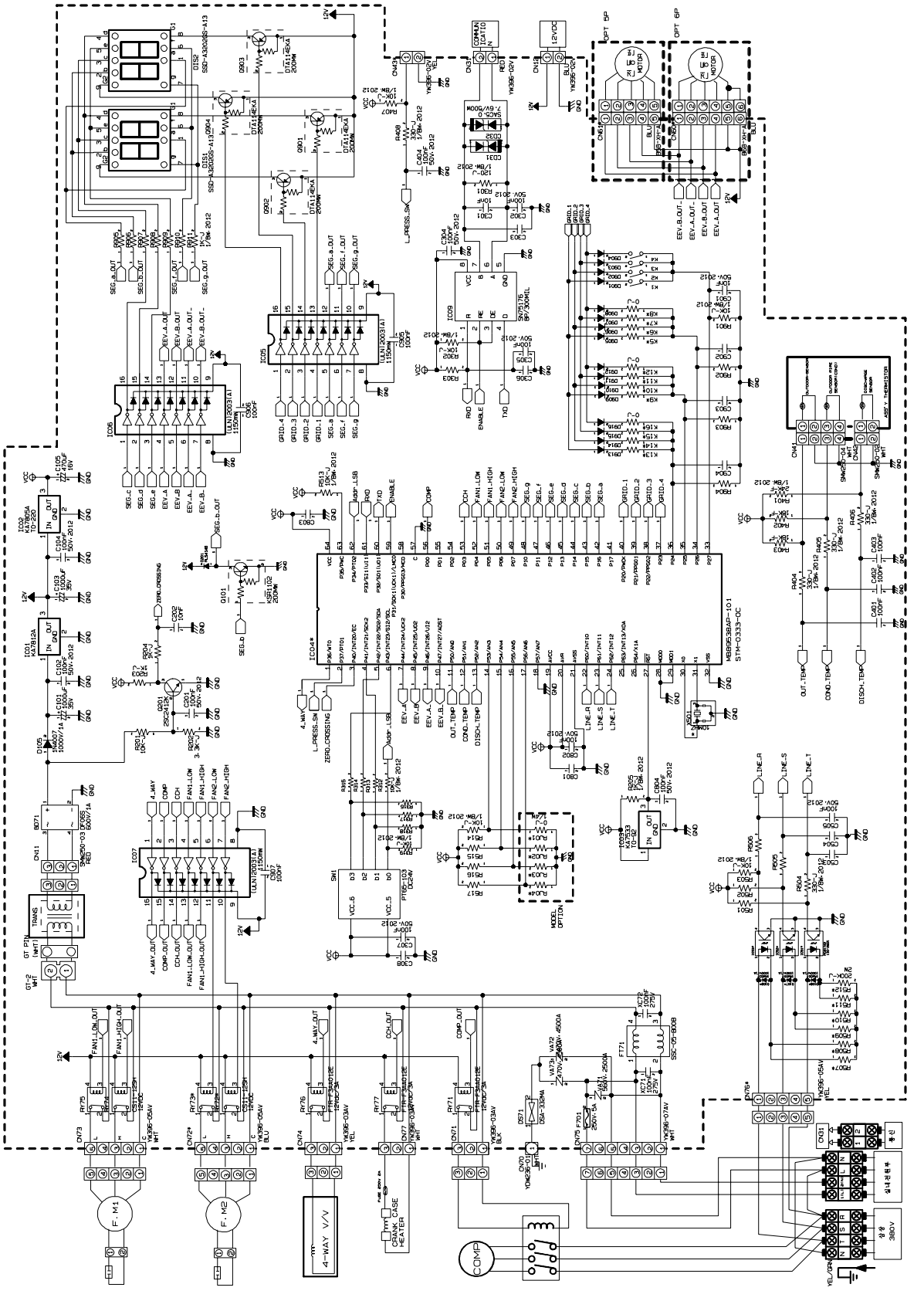
This Document can not be used without Samsung's authorization.

9. Schematic Diagram

9-1 Indoor Unit



This Document can not be used without Samsung's authorization.



This Document can not be used without Samsung's authorization.

MEMO

MEMO

This Service Manual is a property of Samsung Electronics Co., Ltd.
Any unauthorized use of Manual can be punished under applicable
International and/or domestic law.

© Samsung Electronics Co., Ltd. Feb. 2005.
Printed in China.
Code No. DB98-22254A(1)